Stakeholders' Perspectives: Students' Perceptions of Retention Efforts in a College of Agriculture

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Abstract
Researchers' examined a college of agriculture's retention efforts from the students' perspective. More specifically researchers' sought to determine what impact, if any, freshman seminar courses had on the first-year student experience. Additionally, researchers examined student interactions with faculty in the college, the quality of educational experience and questioned whether participation in extracurricular activities contributed to student social integration. Lastly, the researchers determined whether student classification influenced satisfaction with the educational experience within the college. Results indicated students viewed retention efforts favorably; however, a sense of academic "community" was lacking and highly desired.

Student Organization Sponsored Dog Training Classes Provide Experiential Learning Opportunity for Students and Community Participants

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Abstract
The goal of this project was to determine the effectiveness of dog training classes provided by a student organization offered to members of the community at large. An eight-week Canine Good Citizen (CGC) class for dogs taking a CGC test upon completion of the class was offered. Using exit surveys, community participants and students ranked a series of items on a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale. Students (n = 9) indicated completion of the course provided a better understanding of dog training (mean = 4.7). Students exhibited an improvement in career skills such as communication and organization. Students showed assisting with the course allowed them to apply class content (mean = 4.0) and a desire for more hands on opportunities (mean = 4.6). The community dog handlers (n = 29) indicated that they felt the class improved their dog's behavior (mean = 4.7), the university was providing a valuable service by offering the class (mean = 4.6) and that they enjoyed interacting with the students (mean = 4.2). Providing community dog training classes improved student learning and improved community awareness and support of the university's companion animal program.

Actual Versus Preferred Laboratory Classroom Practices: An Evaluation of the Effectiveness of Laboratory Classroom Teaching at the Post-Secondary Level

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Abstract
Students' perceptions of the actual and preferred classroom environment were evaluated using the Science Laboratory Environment Index (SLEI). The SLEI evaluates the classroom environment based on five scales: Student Cohesiveness, Open-Endedness, Integration, Rule Clarity and Material Environment. In addition to evaluating the total classroom environment, the level of integration was evaluated between students in a face-to-face lecture course and students in an online lecture course. A sample of 109 post-secondary students enrolled in Introduction to Entomology Laboratory at the University of Florida responded to the SLEI. Results revealed statistically significant differences between the actual and preferred classroom environment. The results suggest that students enrolled in this laboratory course would like to see an increase in activities that fall within all scales of the SLEI. Additionally, there should be a greater level of integration between information presented in lecture and experiments carried out in the laboratory portion of the course.

Technology Integration in an Agriculture Associate's Degree Program: A Case Study Guided by Rogers' Diffusion of Innovation

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Abstract
Using Rogers' Diffusion of Innovations as a model, the researcher examined technology integration and how the faculty in an Associate's Degree program chose to integrate technology into the students' experiences. This case study explored technology

integration from a programmatic standpoint using video collection, observations, qualitative interviews and video coding using Noldus Observer©. Video observations were collected on 96 students and two faculty members; interviews were conducted with 10 students, two faculty members and the program director. The data illustrates that faculty are careful when choosing to integrate technology. They consider the priorities of the program leadership team, technology usage in the agriculture industry and students' comfort with technology when making decisions about integration. The researchers recommend that technology be integrated on a daily basis and be evaluated as a teaching tool; however, technology is not a substitute for an actual teacher.

Perceptions of Food Safety and Curricular Offerings

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Abstract

Students in an introductory microeconomics course were surveyed to determine their level of awareness of what comprises the field of food safety, a university's food safety program and the demand for food safety graduates and their level of interest in learning more about a degree in food safety. There was considerable ignorance among student respondents about the availability of a food safety degree and diversity of thought regarding potential courses required for the degree. The students were surprisingly accurate in their top-of-mind definitions of food safety. Just under one-third of respondents mentioned each of the key areas of procedures/processes to ensure safety of food, food properly prepared and processed and food free of disease/contamination. Respondents in general were not interested in learning more about a degree in food safety. Nor were they particularly well versed in potential careers, with many respondents mentioning jobs that in general do not require post-secondary education and would generally include firm-sponsored on-the-job training.

Student Perceptions and Performance of an Online Tool Introducing the Concepts of Plant Breeding

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Lori J. Unruh Snyder, North Carolina State University, Raleigh, NC

Abstract

There is a need to develop multimedia tools that can be incorporated into curricula to introduce the basics of plant breeding as a method to recruit and to encourage students to pursue plant breeding programs. To fill this need, we developed an online module that permitted the understanding of the basic techniques and concepts of plant breeding. The design of this study was pre-test and post-test descriptive and comparative, which involved the use of general knowledge instrument to gather pre-test and post-test data for measuring differences resulting from a treatment, which was the introduction of a "Plant breeding" module. In addition, student perception questions were collected. The target population consisted of all undergraduate students (N=133) enrolled in the College of Agriculture at Purdue University during the Fall and Spring semesters of 2010, as well as, the Spring semester of 2011. Students' post-test knowledge scores were slightly lower than pre-test scores, even though the percent change was minimal. We found that this module was a beneficial tool for student-learning and recommended it to be used by faculty to simulate an authentic hands-on learning experience.

Using Reusable Learning Objects (RLOs) to Share International Experiences: Faculty Perceptions and Best Practices in a College of Agriculture

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Abstract

Educators across colleges of agriculture continue to strive to improve the educational experience for students. The use of reusable learning objects (RLOs) is one method that is being pursued. For the purpose of this study, an RLO was defined as a short (i.e., 5-15 minutes), media-based instructional package that included a learning objective, content, media (pictures, videos, and/or audio) and an

assessment. This study was grounded by Kolb's theory of experiential learning in the collection of preflection and reflection responses from participants and the area of instructional design in regard to the development of reusable learning objects. The purpose was to investigate faculty perceptions of RLOs and by doing so, document challenges to creating RLOs and determine best practices for development and use in order to internationalize agricultural curriculum. Qualitative research consisting of face-to-face, semi-structured pre- and post-interviews was employed. Respondents reported positive perceptions of RLOs both prior to and after their engagement in the development process. This study revealed recommendations for practice that can encourage the development and use of reusable learning objects within colleges of agriculture.

Self-Efficacy as a Predictor of Academic Performance among Students in an Entry-Level Crop Science Course

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Abstract
While considerable research has examined the academic and cognitive value of assessments, little has been reported within the discipline of Crop Science and its impact of college students' performance. The purpose of this descriptive-correlational study was to assess the strength of self-efficacy of students taking an introductory crop science. Students in two academic settings (land-grant university and a community college, N=112) taking an entry-level agriculture course participated in an assessment and a diagnostic test, where self-efficacy was assessed in five agriculture subject areas (crops, soils, plant identification, technical applications/equipment, plant physiology) before and after the course. Results revealed a consistent predictor of academic performance was based on the diagnostic test. Although the mean scores were higher on the post-evaluation than on the pre-evaluation, self-efficacy was more consistently correlated with evaluation scores on the pre-assessment. This study presents a viable method for developing an evaluation tool to identify students that may require extra attention and course units, which may involve more class time or explanation.

The USDA Scholars Program: Innovations in a Summer Undergraduate Research Program

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Abstract
The USDA Scholars Program is an innovative summer undergraduate research program at Virginia Tech, funded by the United States Department of Agriculture (USDA), that integrates undergraduate research with peer mentoring, grantsmanship, a specialized summer course and a summer multi-institutional symposium. The results of a qualitative and quantitative assessment of the USDA Scholars Program, which consisted of 42 undergraduates over a 5-year period from 2007-2011, are presented. Students participating in the program were co-authors on 8 peer-reviewed publications and 3 additional articles in preparation, as well as 17 posters at national and international scientific meetings. USDA Scholars self-assessed themselves with a 65-68% gain in perceived confidence in research ability and in one of the assessed years, a slight, but significant increase in perceived public speaking ability. Seventy-five percent of USDA Scholars continued research in the following academic year and the department hosting the program showed a significant increase in the total number of students (including non-Scholars) engaged in undergraduate research. Overall, the USDA Scholars Program can serve as a model for other departments interested in designing a comprehensive summer undergraduate research program.

Modeling Teaching Techniques: Preservice Nonformal Educators' Adoption of Techniques that will Influence Employability of their Future Audiences

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Abstract
The purpose of the study was to describe teaching techniques that can be used by university educators to impact employability skills of preservice nonformal educators' future audience members. Specifically, the study was designed to describe preservice nonformal educators' use of teaching techniques in their university microteaching laboratory, given the instructor-modeled teaching techniques used during

class sessions. In addition, the researchers sought to describe preservice nonformal educators' critical cognitive processing given the teaching techniques observed and used by preservice nonformal educators. A census of fourteen students, who were pre-enrolled in the course, became the convenient population for the study. Three instruments were used to describe student use of teaching techniques, and student cognitive processing. Students were split into one of two groups prior to the first class session; one group received lower cognitive bonus questions, while the other group received higher cognitive bonus questions on all closing reflections during class sessions. Results were that five students used three of the instructor-modeled teaching techniques, timed-pair share, jot-thoughts and window-paning (Kagan, 1994), for a total of 12 frequencies of use, during the students' microteaching laboratories. In addition, no students scored higher than the lowest level of critical thinking during their critical cognitive processing on the reflections at the close of each class session.

Response-Shift Bias in Critical Thinking

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Abstract
Students' responses to the EMI Critical Thinking Test were examined for response-shift bias, a phenomenon found in previous studies using tests of other constructs in which participants provided inconsistent responses in pre-tests compared to then-tests. Pre-test scores of a sample of 75 students enrolled in animal science courses at the University of Florida were compared to the students' then-test scores, which were obtained upon completion of the course and consisted of self-reports of students' prior critical thinking skills. Comparison of the pre-test scores and then-test scores in this study did not provide evidence of a response-shift bias. The influence of demographic variables including gender and ethnicity was also examined and results indicated that the appearance of response-shift bias was not impacted by either variable. The results of this study were not consistent with limited previous research and future studies should further investigate the phenomenon of response-shift bias with respect to the EMI Critical Thinking Test as well as other self-report tests.

Agricultural Education Students' Acceptance and Self-Efficacy of Mobile Technology in Classrooms

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Abstract
Mobile learning is a growing segment of e-learning as more students are regularly engaged in mobile technology use. The amalgamation of learning and mobile technologies, known as mobile learning, is a relatively recent phenomenon and a thorough framework of knowledge has yet to be developed. Researchers lack data on the factors affecting college and university students' acceptance of mobile learning. The need to gather this data is paramount to our understanding of how the use of mobile technology is changing learning for students in higher education. Agricultural educators and students would benefit from a greater understanding of the mobile learning and its part in agricultural education. The population of the study was undergraduate education students at Texas A&M University (N =687). The study used quantitative research surveys to evaluate students' acceptance of mobile learning and self-efficacy. Descriptive statistics were used to provide levels of students' mobile learning acceptance and self-efficacy. Students scored highest in the areas of self-efficacy and effort expectancy. Further studies should address the relationship between mobile learning acceptance and self-efficacy. The relationships determined by future research will help increase our knowledge of students' perceived capacity to learn via mobile technology.

Factors that Influence Student Decisions to Enroll in a College of Agriculture and Life Sciences

John Rayfield, Theresa Pesl Murphrey, Chris Skaggs and Josh Shafer, Texas A&M University, College Station, TX

Abstract
Students in an introductory College of Agriculture and Life Sciences course were surveyed to identify the most important factors influencing their decisions to enroll in the College of Agriculture and Life Sciences at Texas A&M University. Eighty percent (N = 581) responded to an online survey. While parents were reported by 18.1% of the respondents as being the most influential person regarding choice of major, university Internet resources and agricultural related hobbies were also reported as influential. Scholarships and high school visits from university

representatives were reported as the least influential recruitment tool. Over one-third of students reported no agricultural work experience during high school, and athletics was the most common high school activity in which students participated. As the population changes and our society becomes further removed from production agriculture, perhaps it is time to revisit strategies we use to attract non-agriculture students to colleges of agriculture.

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